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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,534	03/15/2004	Boris L. Khaykin	10541-1946	1336
29074	7590	06/28/2005	EXAMINER	
VISTEON C/O BRINKS HOFER GILSON & LIONE PO BOX 10395 CHICAGO, IL 60610			HE, AMY	
			ART UNIT	PAPER NUMBER
			2858	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/800,534

Applicant(s)

KHAYKIN ET AL.

Examiner

Amy He

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/15/04</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Drawings***

1. Figure 1 is objected to because reference numerals 12, 14, 16, 18, 26, 28, 42 and 44 need to be labeled with descriptive text. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claims 6-7 and 10-11 are objected to because of the following informalities:
- (1) Claim 6, line 1, it seems that the claim should be dependent upon claim 5. Otherwise, phrase "the low pass filter" lacks antecedent basis.
  - (2) Claim 7, line 2, replace "an" with --in--.
  - (3) Claims 10 and 11, lines 1-2, it seems that the claims should be dependent upon claim 9. Otherwise, phrases "the first and second linear amplifiers" and "the second linear amplifier" lack antecedent basis.
- Appropriate corrections are required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 5-7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Jin et al. (U. S. Patent No. 5, 304,909).

Referring to claim 1, Jin discloses a resolver circuit (in Figure 2) comprising:  
a signal generation circuit ( 10) configured to generate an excitation signal;  
a bridge tied load amplifier(30; abstract; col. 3, lines 44-51), having an input in electrical communication with the signal generation circuit (10);  
a resolver (40) having an excitation winding in electrical communication with the bridge tied load amplifier (30);  
a resolver processing circuit(circuit for detecting position of the motor 50 based on the output signal from resolver 40, col. 3, lines 55-57) in electrical communication with a first output winding of the resolver(40).

Referring to claim 2, Jin discloses the resolver circuit according to claim 1, wherein the bridge tied load amplifier (30) has a positive output and a negative output, the positive output being connected to one side of the excitation winding (see excitation winding as shown in Figure 4), the negative side being connected to the opposite side of the excitation winding.

Referring to claim 3, Jin discloses the resolver circuit according to claim 1, wherein the signal generation circuit (10) is configured to generate a sinewave (claim 6; abstract; col. 3, line 30) excitation signal.

Referring to claim 5, Jin discloses a low pass filter (20 in Figure 2) connected between the signal generation circuit (10) and the bridge tied load amplifier (30).

Referring to claim 6, Jin discloses that the low pass filter (20) includes a resistive load (R1 in Figure 3) in electrical series with the bridge tied load amplifier and a capacitive load (C2 in Figure 3) electrically parallel with the bridge tied load amplifier.

Referring to claim 7, Jin discloses that the resolver (40) includes a second output winding (see Figures 2 and 3) in electrical communication with the resolver processing circuit (50).

Referring to claim 9, Jin discloses that the bridge tied load amplifier (30) includes a first linear amplifier (OP1 as shown in Figure 3) and a second linear amplifier (TR1 or TR2, col. 3, lines 47-51).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jin et al. (U. S. Patent No. 5, 304,909).

Referring to claim 4, Jin discloses the resolver circuit according to claim 1, wherein the signal generation circuit is configured to generate an excitation signal. Jin does not specifically disclose that the excitation signal is about 10 kHz. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Jin to disclose generating excitation signal at about 10kHz, since it has been held that

where the general conditions of a claim are disclosed in the prior art, discovering the optimum value of a variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215, (CCPA 1980).

Referring to claim 8, Jin discloses the signal generation circuit(10) and the resolver processing circuit (50). Jin does not specifically disclose that the two circuits form portions of a single integrated circuit device. It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Jin to disclose having the signal generation circuit and the resolver processing circuit formed in a single integrated circuit device, since it has been held "that the use of a one piece construction instead of the structure disclosed (in the prior art) would be merely a matter of obvious engineering choice." *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965).

### ***Allowable Subject Matter***

5. Claims 10-11 are objected to as being dependent upon a rejected base claim (claim 1), but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims (claim 9).

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2858

Schmidt et al. (U. S. Patent No. 4, 682, 090) discloses a resolver circuit having a signal generator and an excitation amplifier.

Dudler et al. (U. S. Patent No. 6, 754,610) discloses digital signal processing of resolver rotor angle signals.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy He whose telephone number is (571) 272-2230. The examiner can normally be reached on 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AH

June 20, 2005.

  
ANJAN DEB  
PRIMARY EXAMINER